

UPOGEBIA NIUGINI (CRUSTACEA) A NEW SHRIMP FROM PAPUA NEW GUINEA

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ABSTRACT: *Upogebia niugini* sp. nov. is the fourth species of *Upogebia* from the seas north of Australia possessing ventral rostral spines. Its affinities with other species are discussed.

A small collection of Crustacea from Port Moresby, housed in the National Museum of Victoria (NMVJ), contains specimens of the thalassinidean shrimp genus *Upogebia*. Although closely related to known species these distinctive specimens demand description as a new species. The higher systematics and diagnosis of the genus, with particular reference to Australia, have been given by Poore & Griffin (1979).

Tribe THALASSINIDEA

Family UPOGEBIIDAE

Upogebia niugini sp. nov.

Figs 1, 2

DESCRIPTION OF HOLOTYPE: *Carapace*

Anterior region of carapace about one-third longer than posterior region. Cervical groove well defined dorsally, not visible laterally; an alternative suture running diagonally anterior to groove. Linea thalassinica extending whole length of carapace.

Rostrum widest about one-third way along, 1.3 times as long as wide. Ventral surface with three spiniform teeth, all reaching as far forward as tip of rostrum. Dorsal surface with four irregular longitudinal rows of denticles extending onto anterior half of gastric region. Lateral margin of rostrum with eight teeth.

Gastric region 1.3 times as wide as rostrum and separated from it by broad lateral grooves; lateral crest with 11 (right) and 12 (left) tubercles. Majority of gastric region and rostrum with dense cover of plumose setae dorsally.

Anterolateral margin with five denticles; lateral region posterior to this with four minute denticles. Line of cervical groove defined laterally only by seven denticles.

Antennule and antenna

Antennule: first article with one or two distoventral spines, flagellum shorter than peduncle. Antenna: first article with one distoventral spine; second article with three small proximal dorsal spines and three distal ventral spines; third article with three ventral spines; sephoecrite a small bifid scale.

Mouthparts

Mandible with a prominent proximal tooth on den-

ticulate mesial margin. Maxillae, first and second maxillipeds typical of genus. Third maxilliped with 2-articled exopod; coxa with an epipod and two mesial hooked spines; ischium with only feeble mesial spine row and one spine laterally.

Pereopods

Pereopod 1 subchelate. Coxa with one mesial denticle. Ischium with one minute ventral denticle. Merus 2.5 times as long as wide, with 12 ventral short spines and with one dorsal spine distally. Carpus with about 13 curved spines scattered over dorsal edge, one on ventral margin; distal mesial margin bearing two spines, one prominent. Propodus 2.3 times as long as wide, with irregular longitudinal rows of strong curved spines: 13 along anterior margin, 7-8 in each of three rows along mesial surface and three along the posterior margin leading to the fixed finger; its lateral surface with few denticles near posterior margin. Fixed finger a short, broadly based, spur. Dactyl 0.75 times as long as propodus, anterior margin denticulate.

Pereopod 2 coxa with mesial denticles; ischium with minute denticles posteriorly, one distal spine anteriorly; carpus with one posterior and four anterior spines.

Pereopod 3 coxa with mesial spines; ischium with seven denticles posteriorly; carpus with one posterior and one anterior spine.

Pereopod 4 unarmed, similar in form to pereopod 3.

Pereopod 5 subchelate, dactyl about 3 times as long as fixed finger.

Tailfan

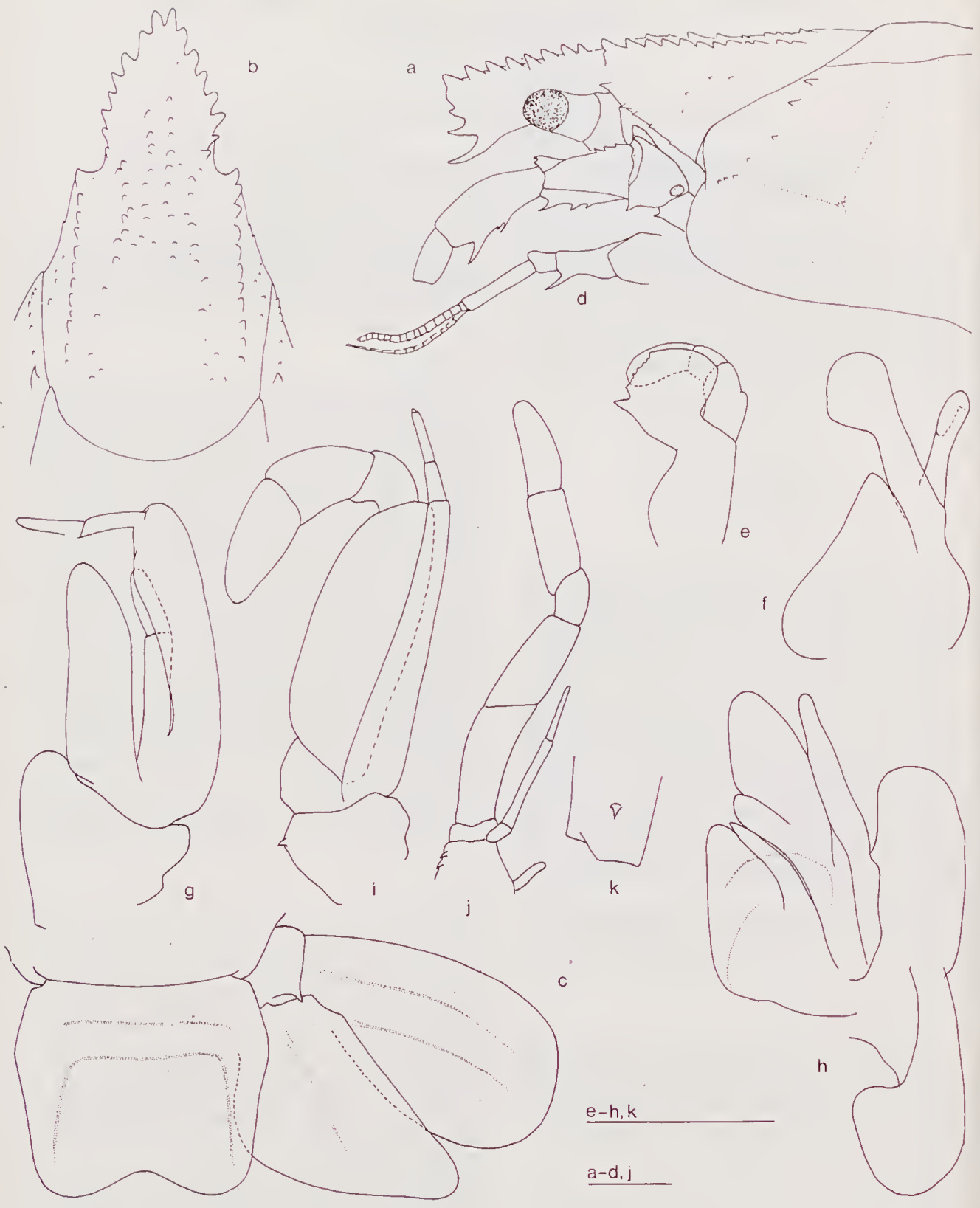
Uropods longer than telson; exopod oval, 1.7 times as long as wide; endopod triangular, widest in proximal half.

Telson 1.2 times as wide as long, posterior margin concave; dorsally two broad transverse carinae in proximal half.

HOLOTYPE: Female (with left pereopods 1-4, right pereopods 3, 5), c.l. 9.1 mm (NMV J1653).

TYPE LOCALITY: Papua New Guinea, Port Moresby, 80 m off eastern side of Esade Reef, shelly-muddy sediment, 15 m, coll. J. E. Watson and J. Carey using SCUBA, 28 July 1981.

PARATYPES: Male (without pereopods), c.l. 6.9 mm; female (with left pereopod 5 only), c.l. 8.1 mm, both from type locality (NMV J1654).



e-h, k

a-d, j

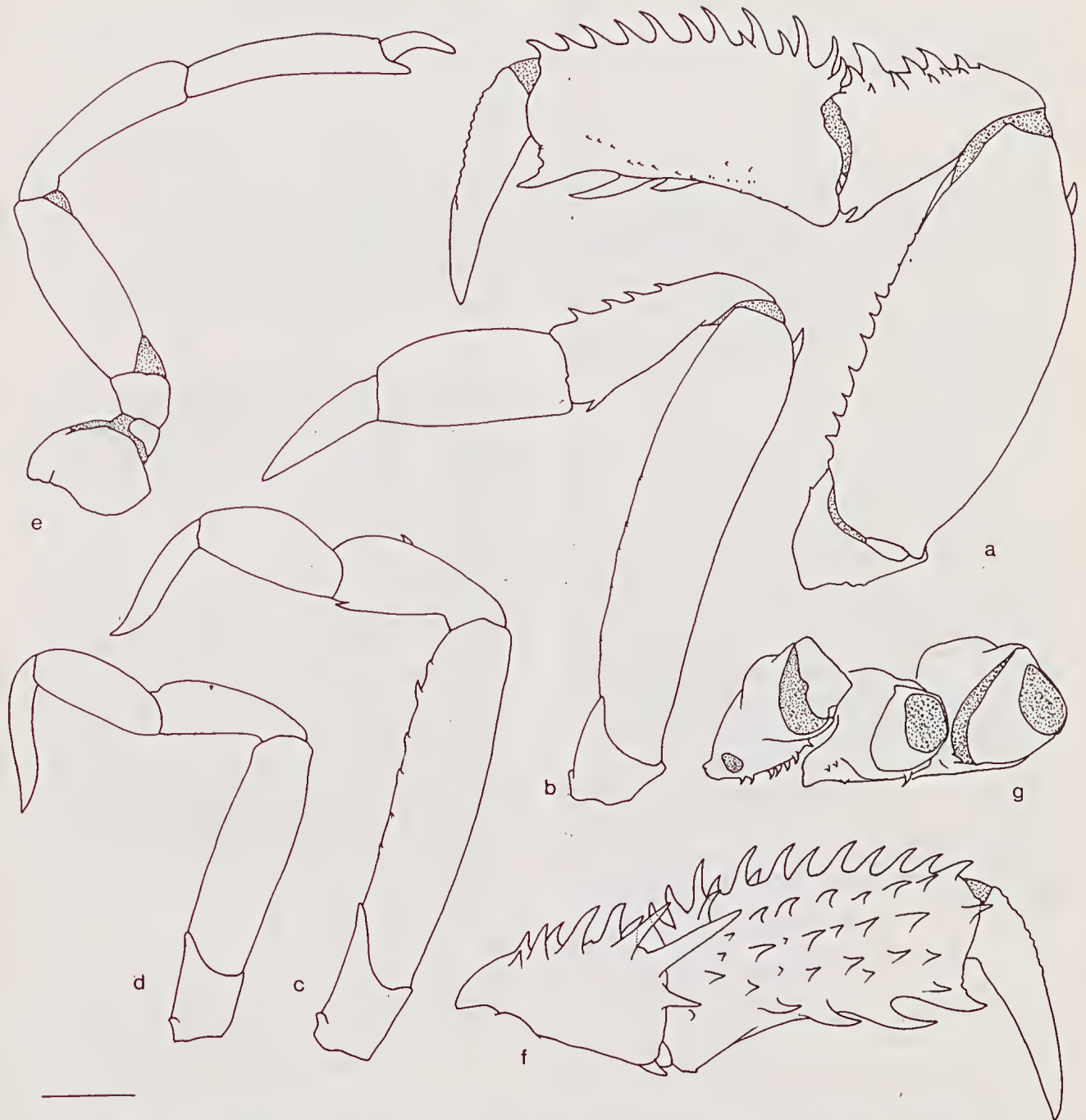


Fig. 2—*Upogebia niugini* sp. nov., holotype. *a-e*, pereopods 1-5, lateral views; *f*, pereopod 1, mesial view; *g*, coxae 1-3, ventral view of right side in situ. (Pereopods 1-4 are from left side, pereopod 5 from right side, all figures without setae.) Scale = 1 mm.

Fig. 1—*Upogebia niugini* sp. nov., holotype. *a, b*, lateral and dorsal views of anterior region of carapace; *c*, telson and uropod; *d*, antennules; *e*, mandible; *f, g*, maxillae 1, 2; *h-j*, maxillipeds 1-3; *k*, lateral view of base of ischium of maxilliped 3. (Figures are without setae, mouthparts and antennules are from left side.) Scale = 1 mm.

VARIATION: The ventral rostral spines of all three specimens are uniform. The dorsal spines of the female paratype are in only two, longitudinal rows, that are, especially on the rostrum, more regular than in the holotype.

ETYMOLOGY: The specific epithet *niugini* is from the Pidgin language and is sometimes used to refer to the nation of Papua New Guinea.

REMARKS: *Upogebia niugini* belongs to the group of Indopacific species possessing ventral rostral spines: *U. acanthochela* Sakai, *U. acutispina* de Saint Laurent & Ngoc-Ho, *U. ceratophora* De Man, and *U. monoceros* De Man. *Upogebia talismani* Bouvier, from the warm temperate and tropical Atlantic, also belongs to this group, first separated from other species of *Upogebia* by De Man (1928) in his key. De Saint Laurent & Ngoc-Ho (1979) defined the group more closely with additional characters:

- rostrum with one or several ventral spines;
- anterolateral margin of the carapace armed with a series of spinules;
- posterior margin of the telson more or less concave;
- mandible without a sharp anterior tooth;
- fixed finger of pereopod 1 reduced to a strong spiniform projection; mesial face of the propodus armed with one or several rows of spines;
- coxae of the pereopods with fine mesial spinules;
- branchial filaments simple.

Upogebia niugini is most closely related to *U. acutispina* from northwestern Australia, many features of the spination of the pereopods being virtually indistinguishable. However, the three ventral rostral spines are shorter in *U. niugini*, the telson relatively broader, and the rostrum narrower than in *U. acutispina*. *Upogebia monoceros* from Java and *U. ceratophora* from eastern Indonesia (De Man 1928, de Saint Laurent & Ngoc-Ho 1979) possess only one ventral rostral spine; *U. acanthochela* from the Yellow Sea has two (Sakai 1967).

The number of morphologically similar species in this group, revealed by a relatively small amount of sampling, suggests a high rate of species radiation in *Upogebia* in the seas around the Indonesian archipelago.

Another Indopacific species, *Upogebia spinifrons* (Haswell) from northeastern Australia also possesses ventral rostral spines but differs from the group defined by de Saint Laurent & Ngoc-Ho (1979) in several respects. Dorsal spines on the rostrum and gastric region are absent or obsolete, the posterior margin of the telson is not concave, the fixed finger of pereopod 1 is substantial and toothed, and the mesial face of the propodus of pereopod 1 is without spine rows (Poore & Griffin 1979).

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